

SUMMARY OF PROPOSED CHANGES TO THE DRAFT PERMIT FOR Dominion – Warren County Power Station Registration 81391

During the public comment period for Dominion-WCPS, several comments were received by mail, as well as from oral testimony, that recommended changes to the draft permit. DEQ considered such comments and revised the draft permit to reflect those comments deemed to have technical merit. The changes that are proposed may be made without requiring changes to the permit analysis and review process, since they serve to increase the stringency of the requirements in the original draft permit. The proposed changes are summarized below.

- PM-10 and PM-2.5 short-term and annual emission limits for the combined-cycle power generating units (T-1, T-2, & T-3)

After further review with the turbine manufacturer, Dominion submitted information showing that the PM-10 and PM-2.5 short term emission rates for the combined-cycle units could be lowered. DEQ proposes to change the short term emission limits according to the following table:

Pollutant	Original Short Term Emission Limits	Revised Short Term Emission Limits
PM-10 (includes condensable PM)	<ul style="list-style-type: none"> ▪ 12.0 lb/hr without duct burner firing ▪ 18.0 lb/hr with duct burner firing ▪ 0.0040 lb/MMBtu without duct burner firing ▪ 0.0052 lb/MMBtu with duct burner firing 	<ul style="list-style-type: none"> ▪ 8.0 lb/hr without duct burner firing ▪ 14.0 lb/hr with duct burner firing ▪ 0.0027 lb/MMBtu without duct burner firing ▪ 0.0040 lb/MMBtu with duct burner firing
PM-2.5	<ul style="list-style-type: none"> ▪ 12.0 lb/hr without duct burner firing ▪ 18.0 lb/hr with duct burner firing ▪ 0.0040 lb/MMBtu without duct burner firing ▪ 0.0052 lb/MMBtu with duct burner firing 	<ul style="list-style-type: none"> ▪ 8.0 lb/hr without duct burner firing* ▪ 14.0 lb/hr with duct burner firing* ▪ 0.0027 lb/MMBtu without duct burner firing* ▪ 0.0040 lb/MMBtu with duct burner firing*

Due to the lower short term emission rates, the annual emission limits for both PM-10 and PM-2.5 were changed from 211.5 tons per year to 159.1 tons per year. Conditions 16 and 17 of the draft PSD permit have been changed accordingly.

Some commenters questioned how particulate matter was addressed in the draft permit and how the projected annual emission limits for PM-10 and PM-2.5 were calculated and if the emission limits are artificially high. PM-2.5 is a subset of PM-10. Per the draft PSD permit, Dominion is required to perform an initial stack test for PM-2.5 from the combustion turbines when a test method for PM-2.5 has received final

approval by EPA. To provide further clarification in the draft permit, DEQ proposes to add footnotes to Conditions 16 and 17 (Short-Term and Annual Emission Limits) stating that the permit may be changed in accordance with 9 VAC 5-80-1925, to reduce the PM-2.5 emission limits based on results from PM-2.5 stack testing as required by the permit.

- VOC annual emission limits for the combined-cycle power generating units (T-1, T-2, & T-3)

During the comment period, Dominion was asked whether the proposed VOC emission limits could be reduced with the main focus on the VOC emission rates during startups and shutdowns. With further analysis, the combustion turbine vendor was able to provide lower estimates of VOCs during hot starts because the heat recovery steam generator (HRSG) temperatures are already within the proper range to allow the oxidation catalysts to reduce VOCs. See further discussion in Dominion's comments from Pamela Faggert dated November 24, 2010. By reducing the estimated VOC emissions during hot starts, Dominion proposes to lower the annual VOC limit from 230.8 tons per year to 181.0 tons per year from the combined-cycle units and duct burners. Condition 17 of the draft PSD permit has been changed accordingly.

- Operational Restriction for Duct Burners

As discussed in the updated DEQ Air Quality Analyses Memorandum (See Attachment 3), the applicant is not required to model for compliance with PM-2.5 increment before the trigger date, which is October 20, 2011. The applicant volunteered to do the PM-2.5 increment modeling analysis at the suggestion of DEQ to get an understanding of what conditions would be necessary to comply upon the effective date of October 20, 2011. DEQ has reviewed and approved this analysis which is consistent with the approved modeling methodology contained in the permit application. The proposed facility has voluntarily accepted the operational restriction for duct burners not to operate between the hours of 10 pm and 5 am during the period between September 1st and April 30th to comply with the PM-2.5 increment (Condition 20 of the draft permit). Dominion has requested that an exception to operate duct burners during a PJM declared emergency be granted. Dominion's justification for the requested exception is Virginia Code § 10.1-1307.3A(5), which authorizes the DEQ Director to suspend an operational restriction applicable to an electric generation facility in the case of a force majeure event (an event not reasonably within control of the electric supplier). Dominion asserts that a PJM ISO declared emergency meets the definition of "force majeure" under Virginia Code 59.1-21.18:2.7. DEQ has approved this request and an exception is included in the permit.

Condition 20 has been added to the permit and reads as follows:

Duct Burner Operational Restriction – *The duct burners (DB1, DB2, & DB3) shall not operate between the hours of 10 p.m. and 5 a.m. Eastern Standard Time (EST) during the period between September 1st and April 30th, except that the duct burners may be operated during a Pennsylvania New Jersey Maryland Interconnection, LLC (PJM) Independent System Operator's (ISO) declared emergency. This duct burner operational restriction is included to demonstrate that the project will not cause or contribute to an exceedance of the applicable PM-2.5 PSD Class I increment as of the trigger date, October 20, 2011.*

(9 VAC 5-80-1180, Virginia Code 10.1-1307.02., and Virginia Code 10.1-1307.3 A.5.)

■ **NO_x Offsets / Mitigation Plan**

Many commenters expressed concern that the mitigation plan included in the draft PSD permit was not adequate to offset the proposed NO_x emissions from WCPS and to mitigate the potential impacts at Shenandoah National Park (SNP). The commenters requested that the recommendations from the National Park Service (NPS) be incorporated into the mitigation plan to ensure a net environmental benefit for the SNP. In coordination with DEQ, the NPS and Dominion reached a mutually acceptable emissions reduction plan. The agreement will replace the previous mitigation plan in the draft PSD permit as Condition 24. The new mitigation plan includes securing emissions reductions equal to the total annual NO_x limit (330.7 tons per year) from: a) the shutdown of the Dominion-North Branch Power Station in Grant County, West Virginia; b) the previously obtained NO_x offsets from World Kitchen in Martinsburg, West Virginia; and c) retiring eligible allowances (SO₂ or NO_x) from Dominion's existing facilities or obtaining emission reduction credits. In the comments submitted by the Department of the Interior on November 30, 2010, the NPS has agreed that these actions will provide full mitigation or acceptable net environmental benefits for all potential or actual adverse impacts to Air Quality Related Values, including visibility and aquatic resources, at SNP.

As part of the revised mitigation plan, the map labeled "Figure 1" in the draft permit was updated and is now labeled "Attachment A." Also, the list of counties that is referenced in the mitigation plan was updated and the label was changed from Appendix A to Attachment B.